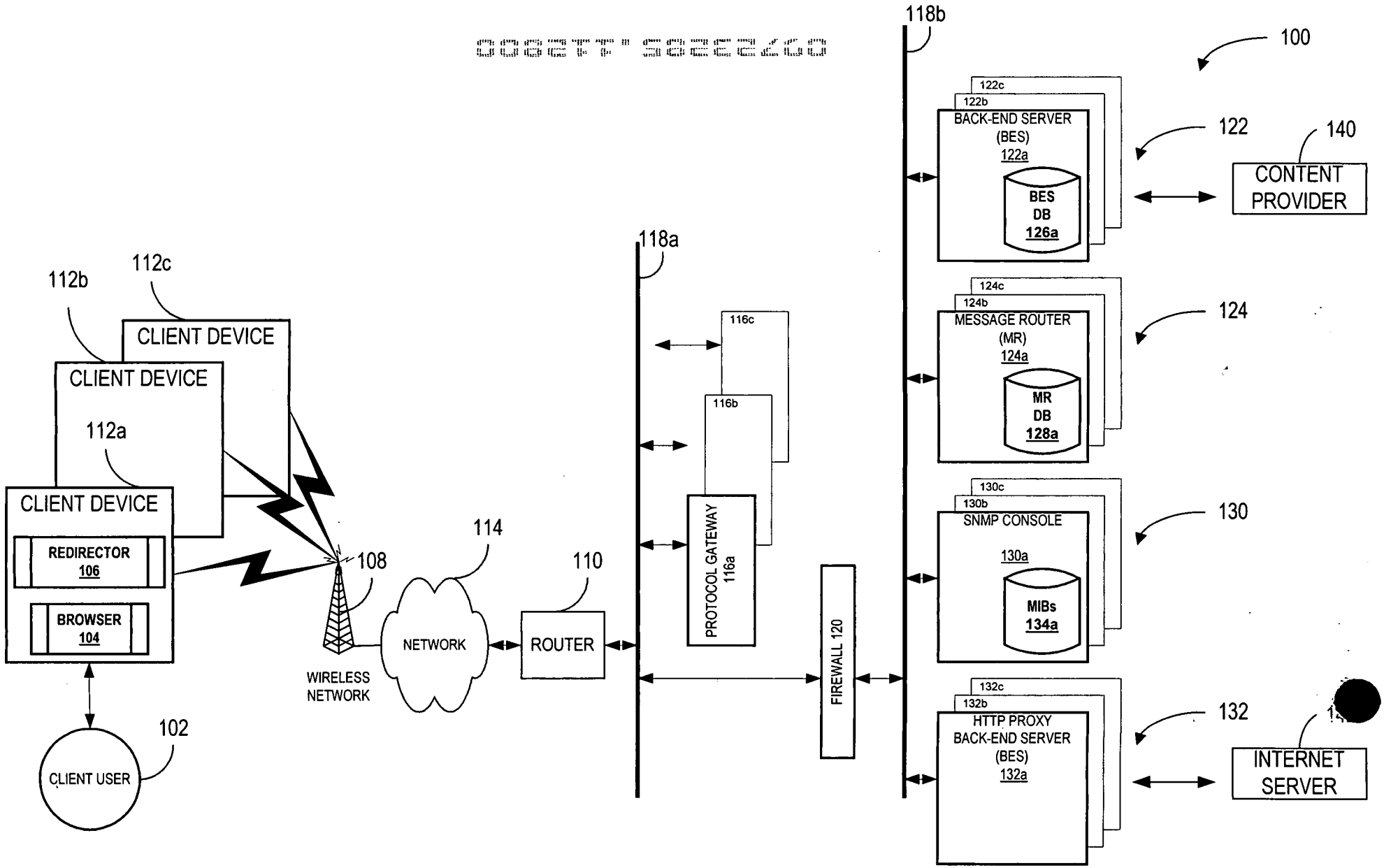

118b
100
122c
122b
BACK-END SERVER
(BES)
122a
BES
DB
126a
122
140
CONTENT
PROVIDER
118a
112b
112c
CLIENT DEVICE
CLIENT DEVICE
112a
CLIENT DEVICE
REDIRECTOR
106
BROWSER
104
116c
116b
PROTOCOL GATEWAY
116a
124c
124b
MESSAGE ROUTER
(MR)
124a
MR
DB
128a
124
130c
130b
SNMP CONSOLE
130a
MIBs
134a
130
108
114
110
WIRELESS
NETWORK
NETWORK
ROUTER
FIREWALL 120
132c
132b
HTTP PROXY
BACK-END SERVER
(BES)
132a
132
INTERNET
SERVER
102
CLIENT USER

FIG. 1A

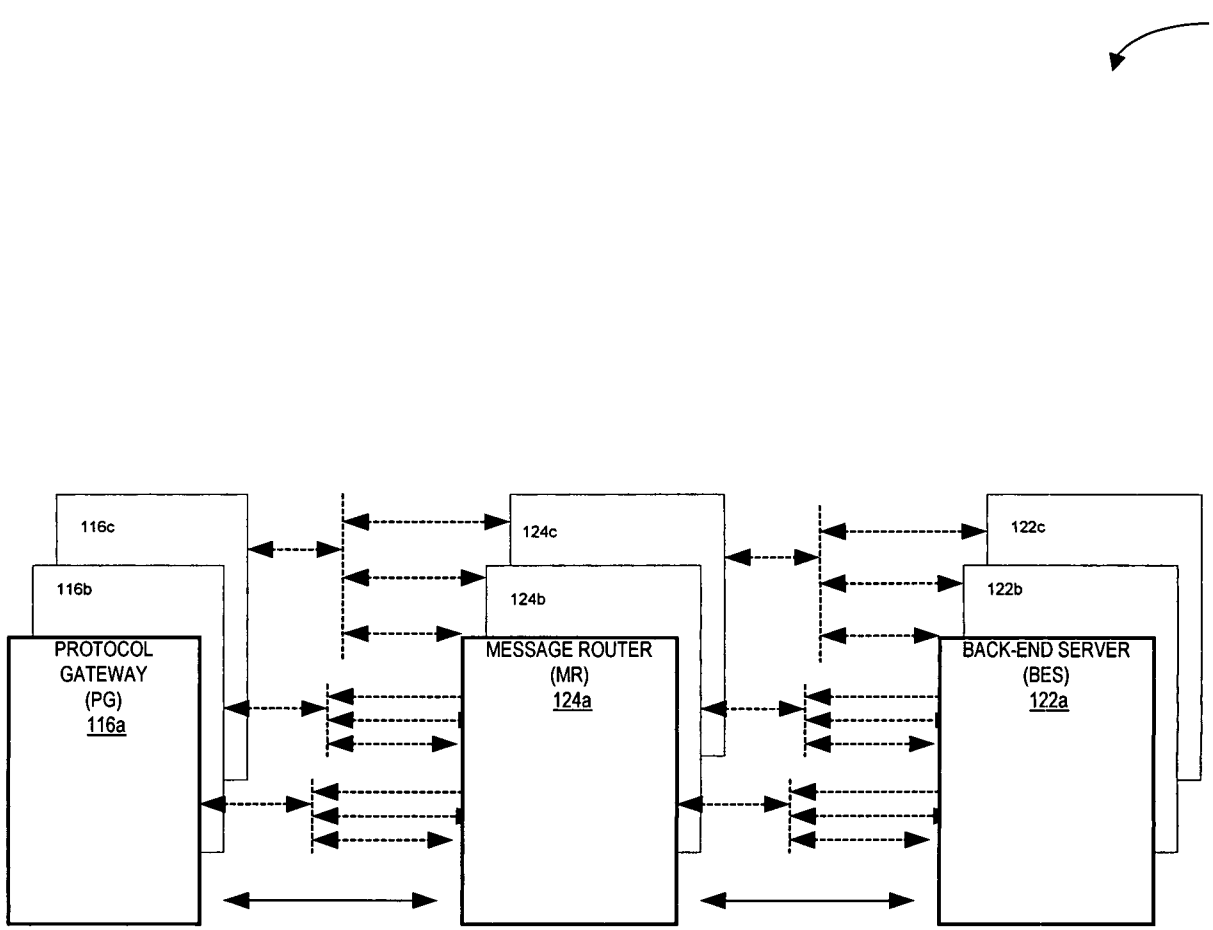
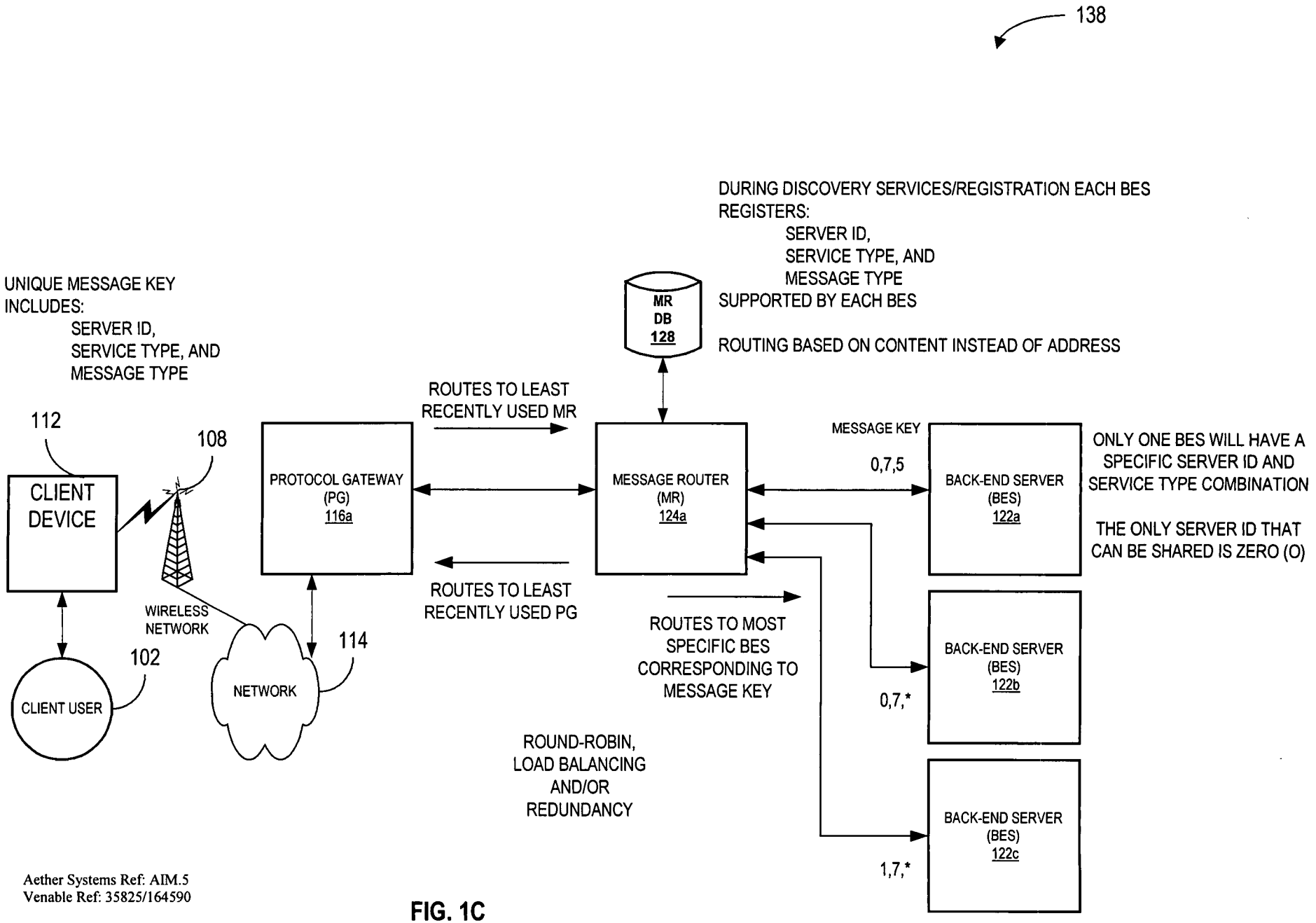

136
116c
116b
PROTOCOL
GATEWAY
(PG)
116a
124c
124b
MESSAGE ROUTER
(MR)
124a
122c
122b
BACK-END SERVER
(BES)
122a

FIG. 1B



Aether Systems Ref: AIM.5
Venable Ref: 35825/164590

FIG. 1C

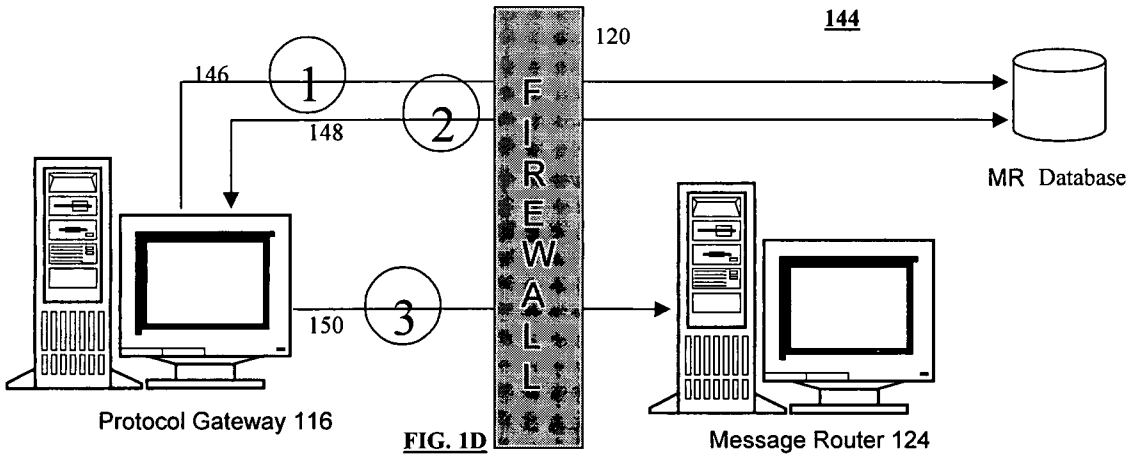

144
120
146
1
148
2
FIREWALL
MR Database
150
3
Protocol Gateway 116
Message Router 124

FIG. 1D

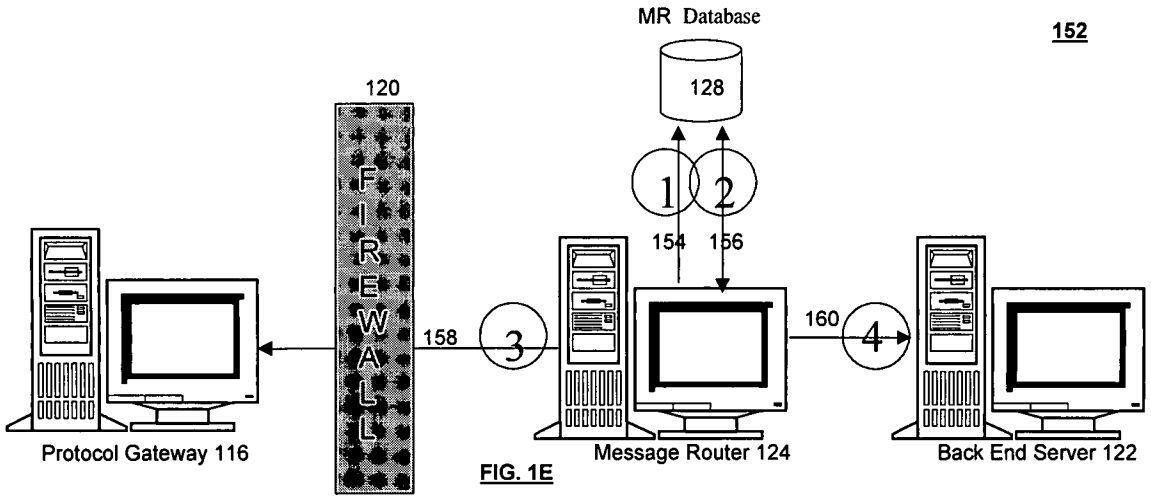

MR Database
152
128
120
1
2
154
156
158
3
160
4
Protocol Gateway 116
Message Router 124
Back End Server 122
FIREWALL

FIG. 1E

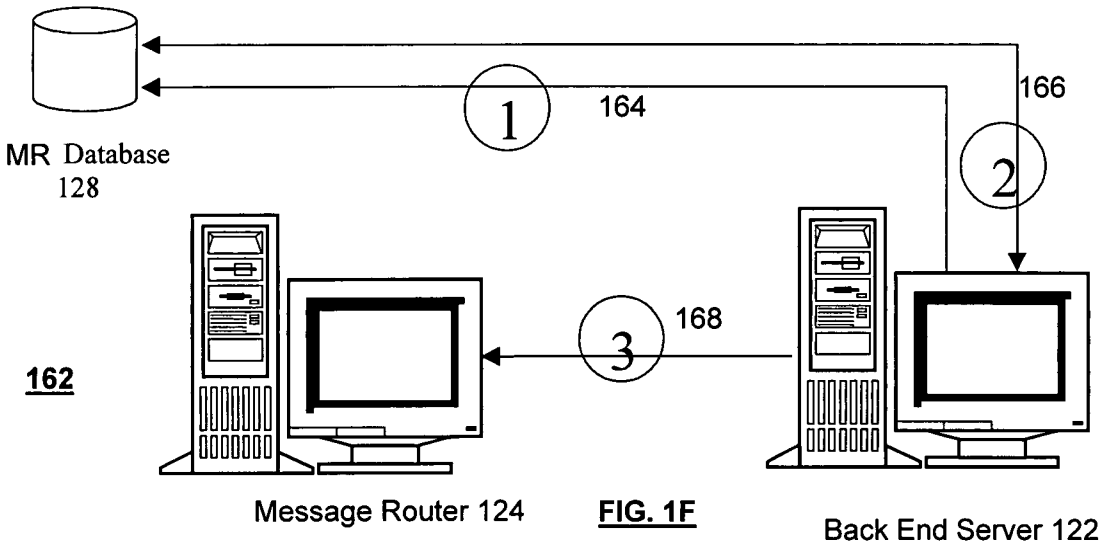

MR Database
128
1
164
166
2
162
3
168
Message Router 124
Back End Server 122

FIG. 1F

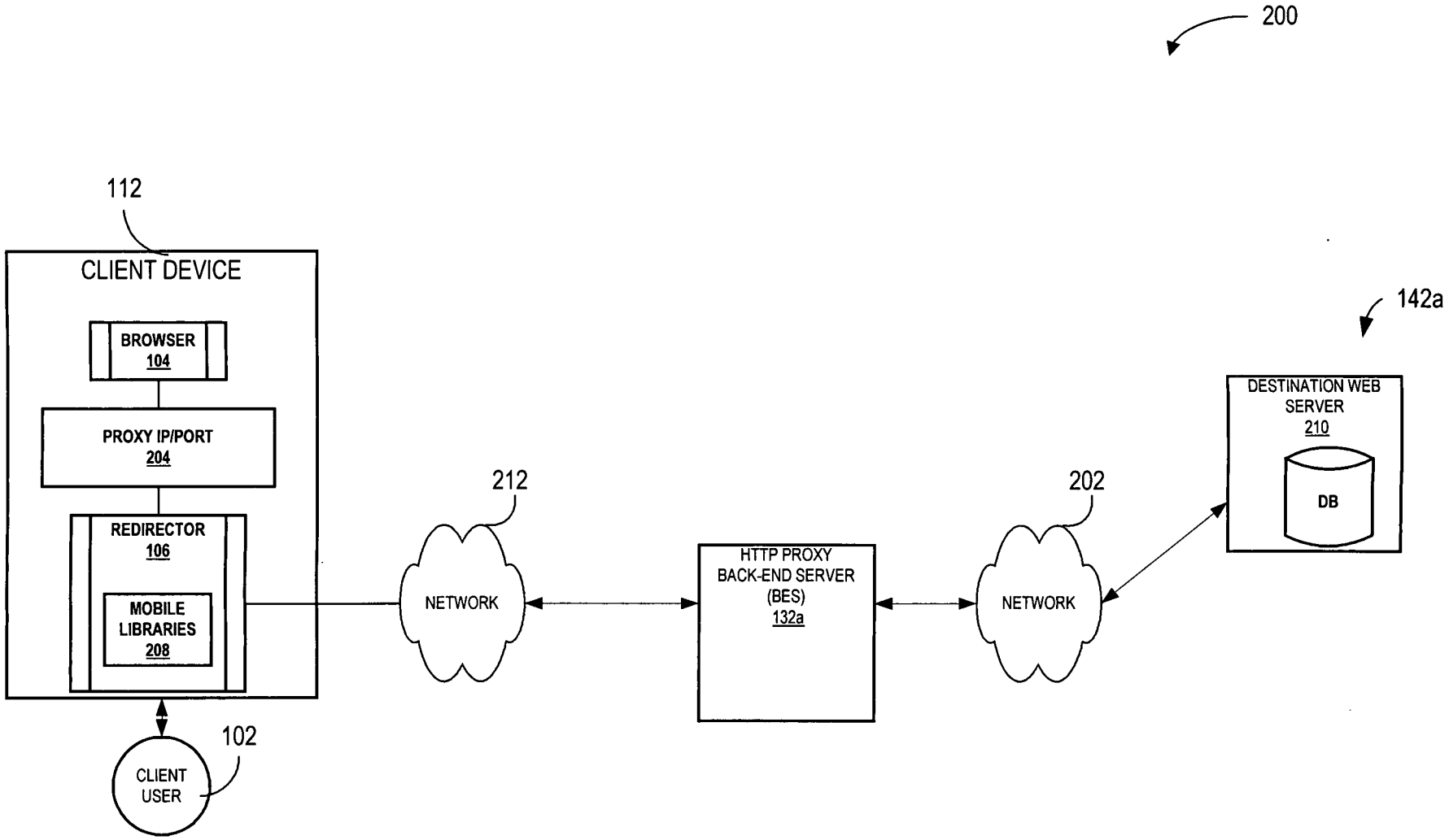
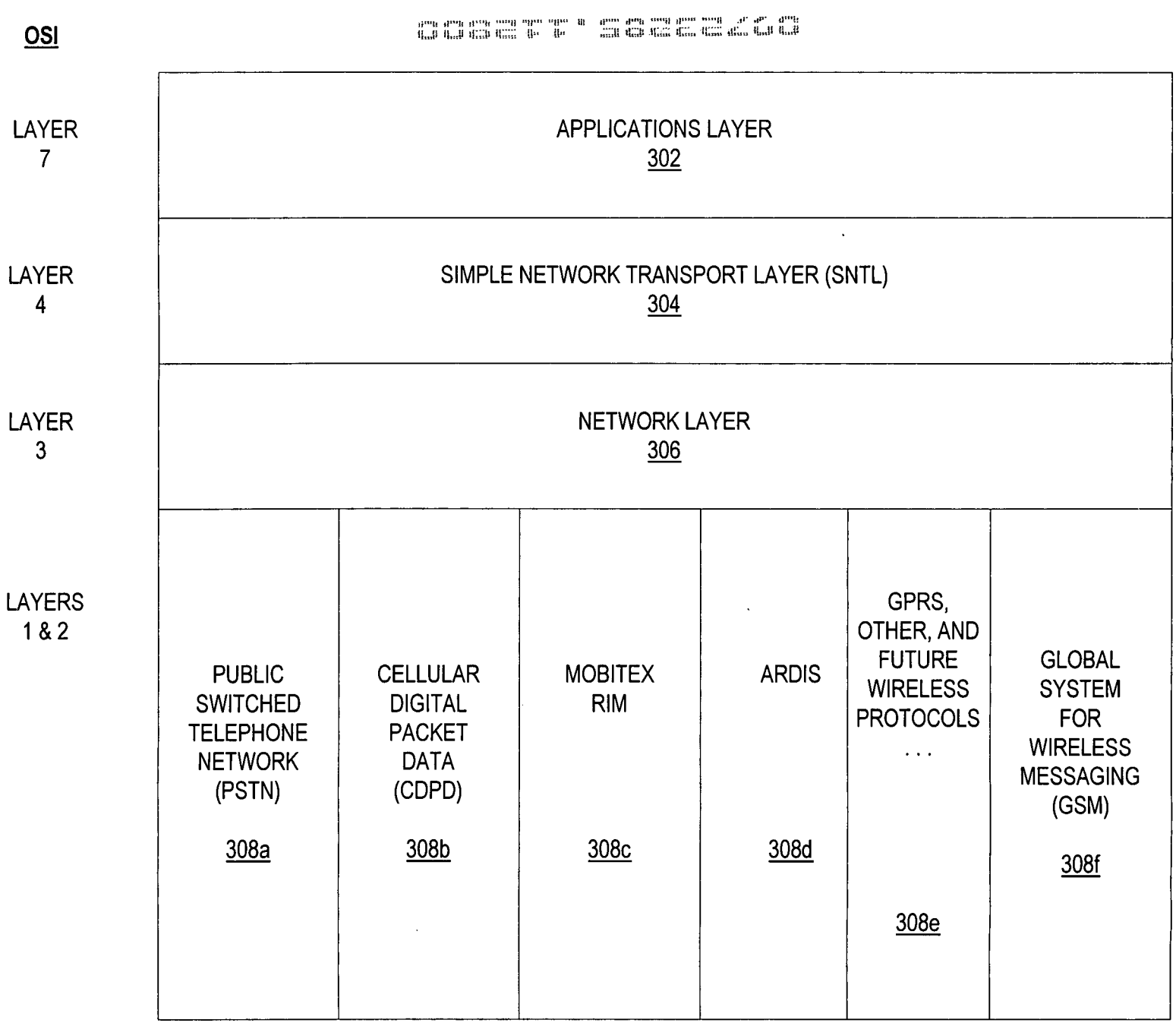
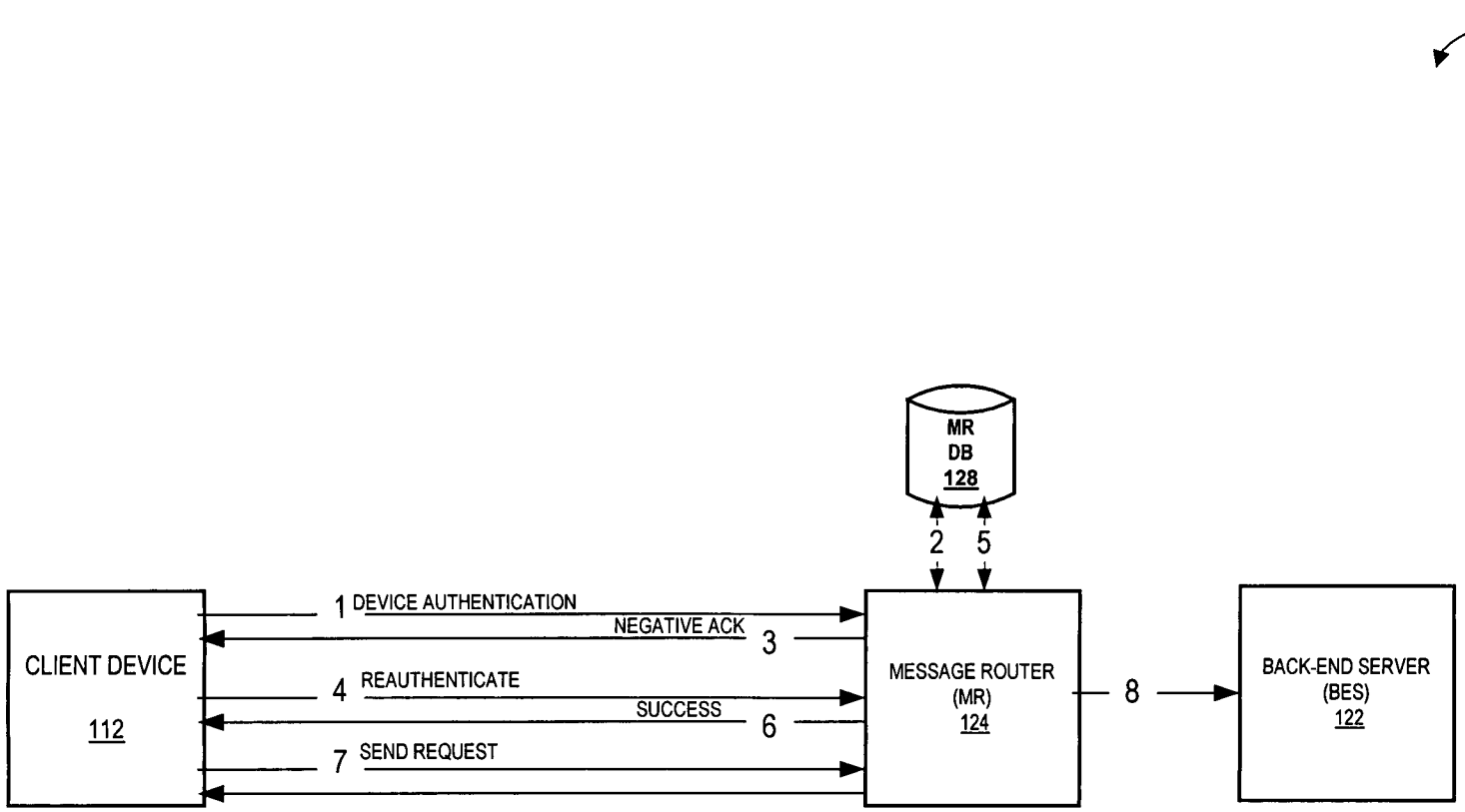

200
112
CLIENT DEVICE
BROWSER
104
PROXY IP/PORT
204
REDIRECTOR
106
MOBILE
LIBRARIES
208
CLIENT
USER
102
212
NETWORK
HTTP PROXY
BACK-END SERVER
(BES)
132a
202
NETWORK
142a
DESTINATION WEB
SERVER
210
DB

FIG. 2



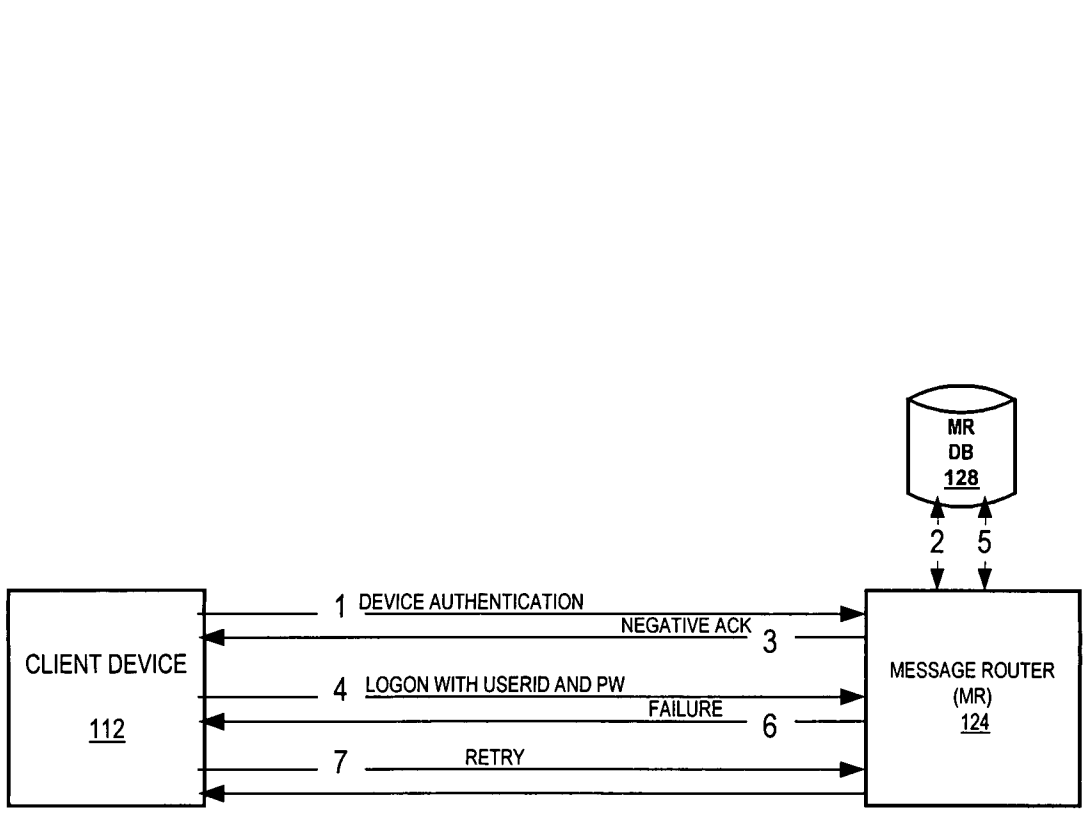
Aether Systems Ref: AIM.5
Venable Ref: 35825/164590

FIG. 3



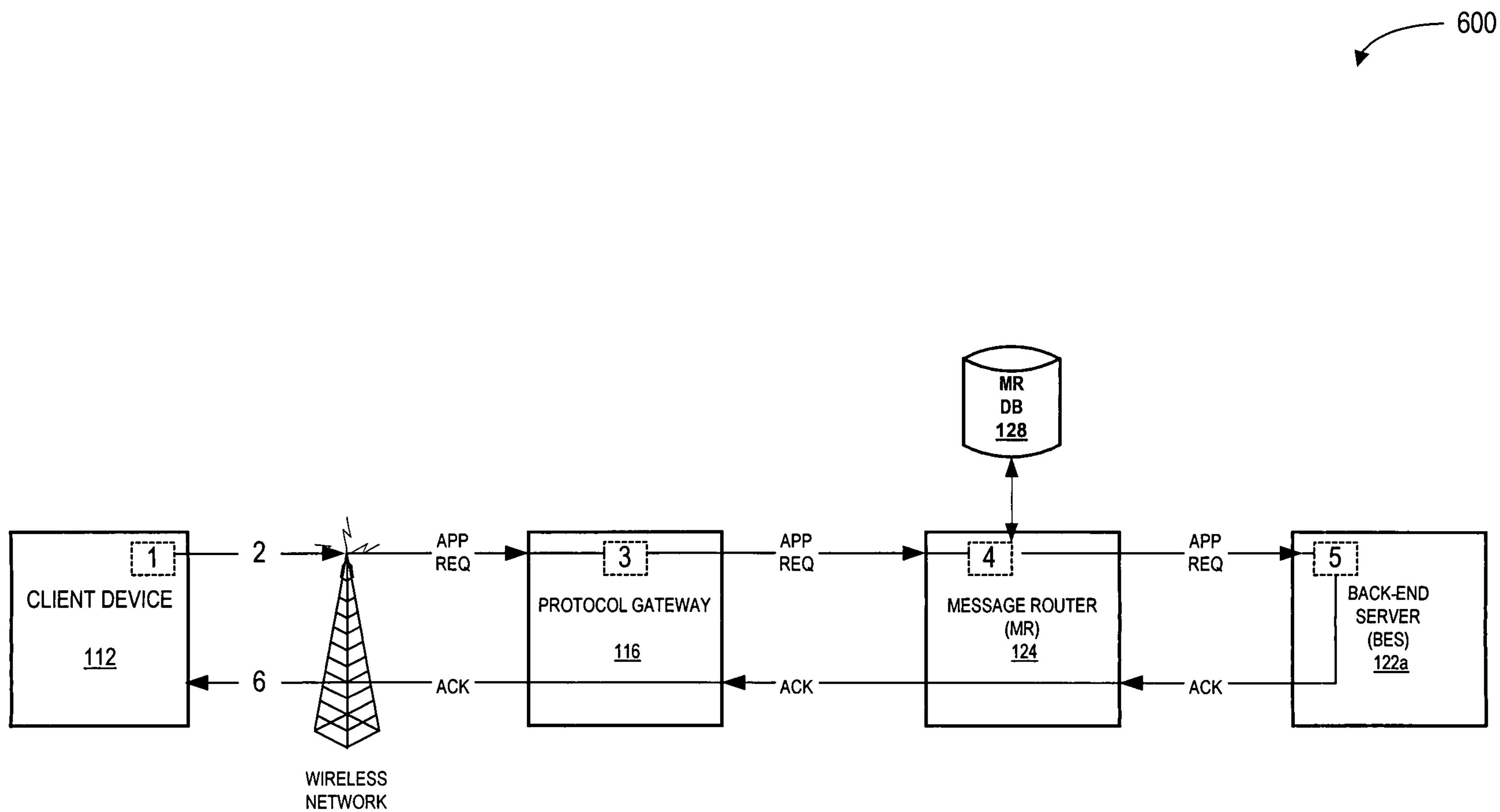
Aether Systems Ref: AIM.5
Venable Ref: 35825/164590

FIG. 4



Aether Systems Ref: AIM.5
Venable Ref: 35825/164590

FIG. 5



Aether Systems Ref: AIM.5
Venable Ref: 35825/164590

FIG. 6A

602

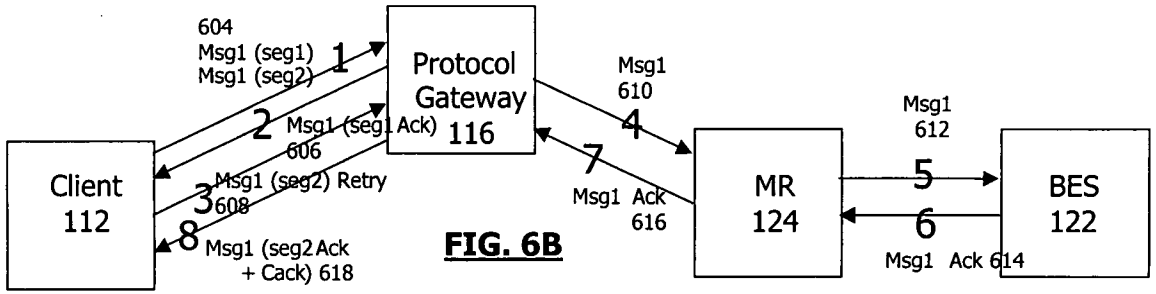

604
Msg1 (seg1)
Msg1 (seg2)
1
Protocol Gateway 116
Msg1 610
4
Msg1 612
5
Client 112
2
Msg1 (seg1 Ack) 606
3
Msg1 (seg2) Retry 608
7
Msg1 Ack 616
MR 124
BES 122
6
Msg1 Ack 614
8
Msg1 (seg2 Ack + Cack) 618

FIG. 6B

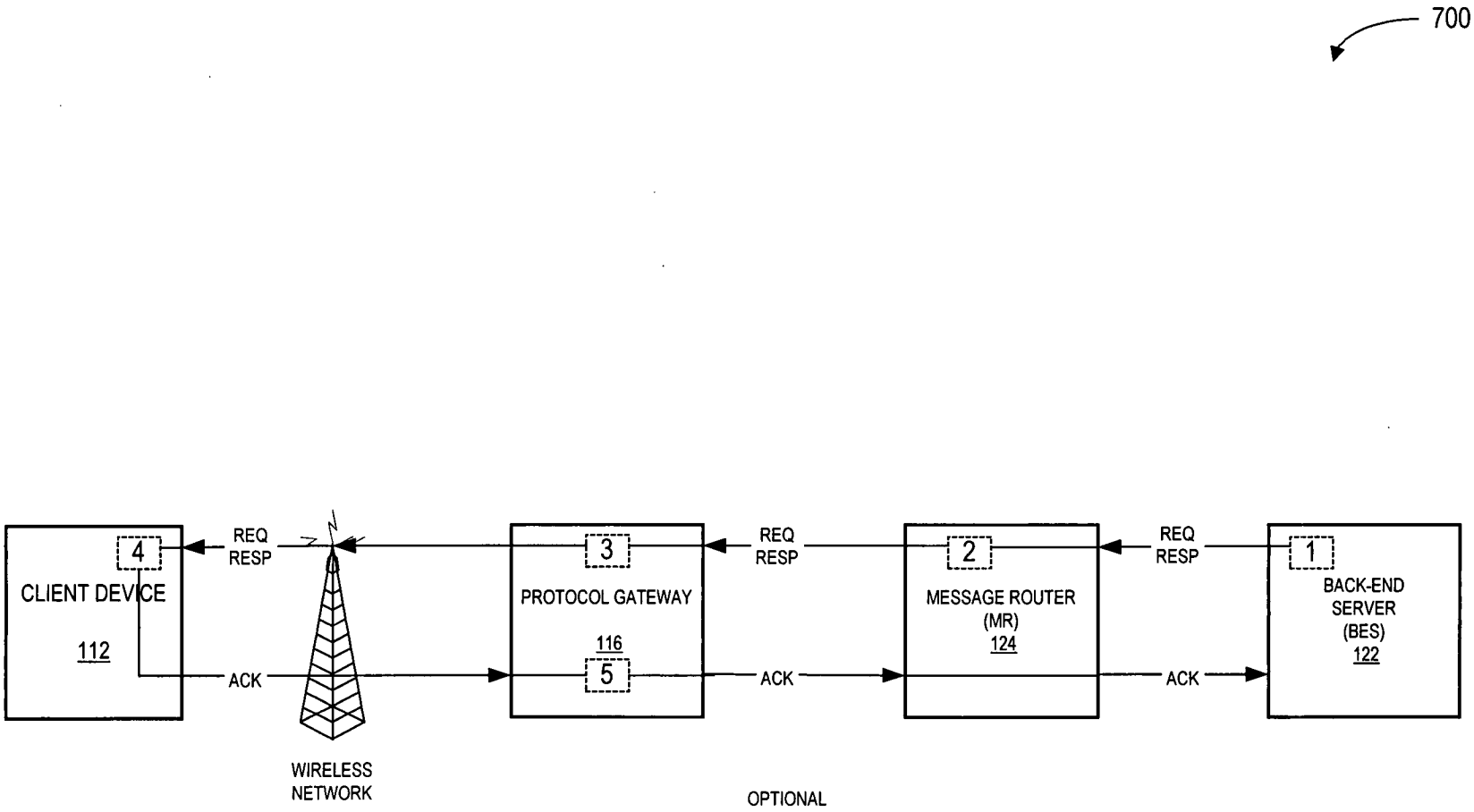


FIG. 7A

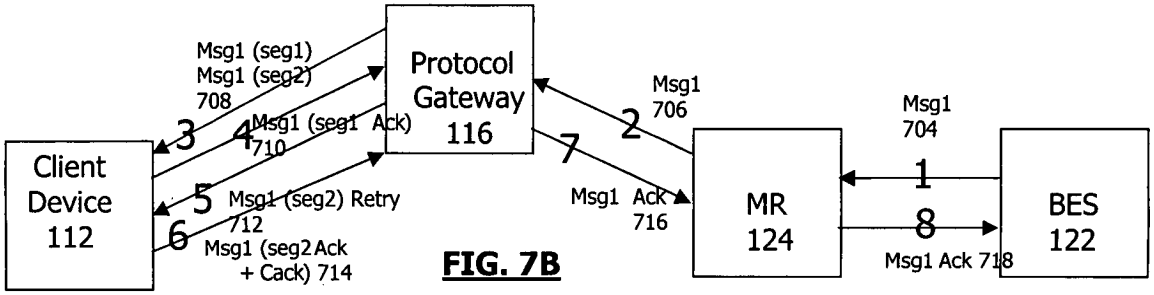
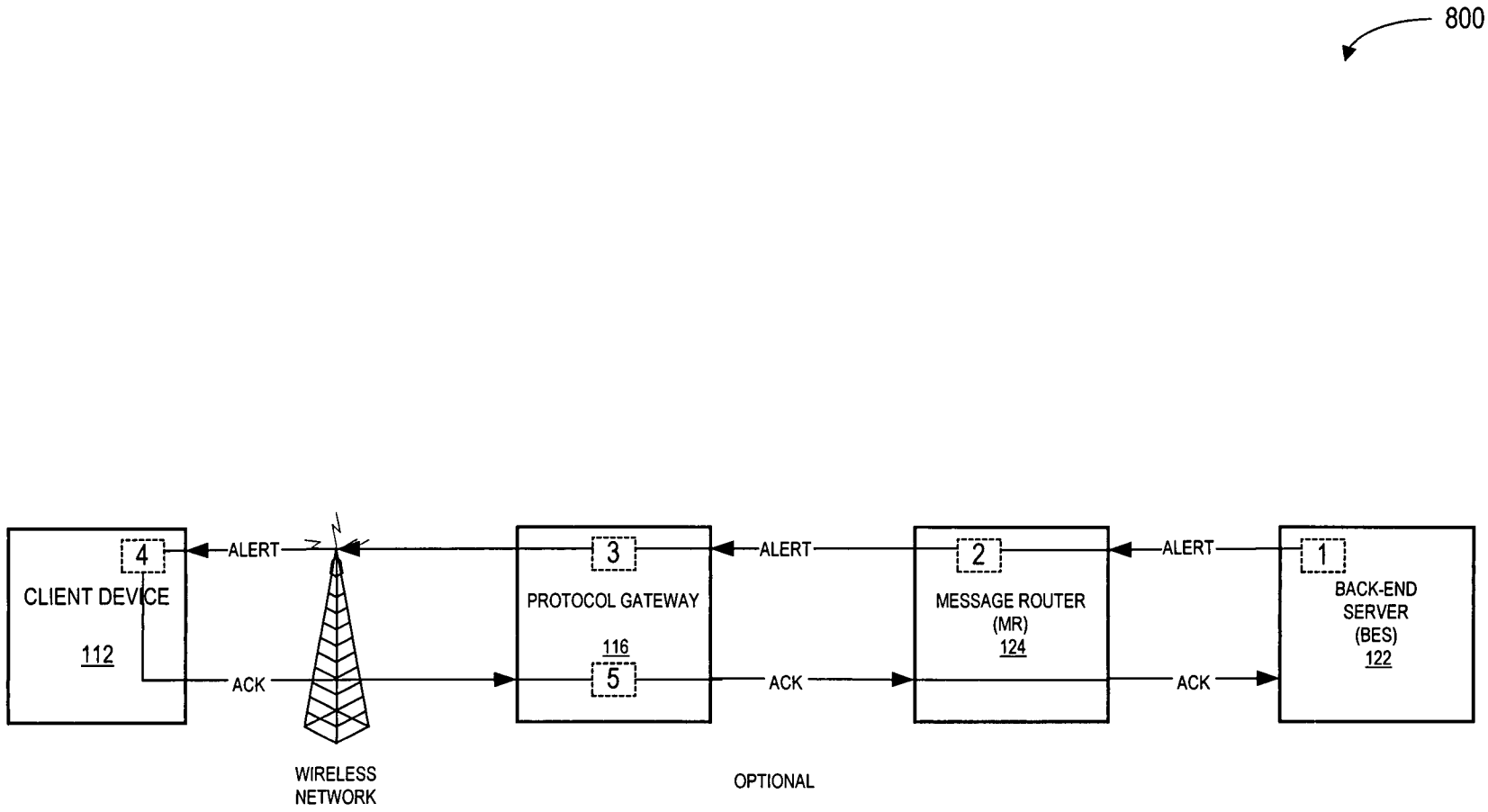

702
Client Device 112
Protocol Gateway 116
MR 124
BES 122
Msg1 (seg1)
Msg1 (seg2)
708
Msg1 (seg1 Ack)
710
Msg1 (seg2) Retry
712
Msg1 (seg2 Ack + Cack) 714
Msg1 706
Msg1 Ack 716
Msg1 704
Msg1 Ack 718
1
2
3
4
5
6
7
8

FIG. 7B



Aether Systems Ref: AIM.5
Venable Ref: 35825/164590

FIG. 8A

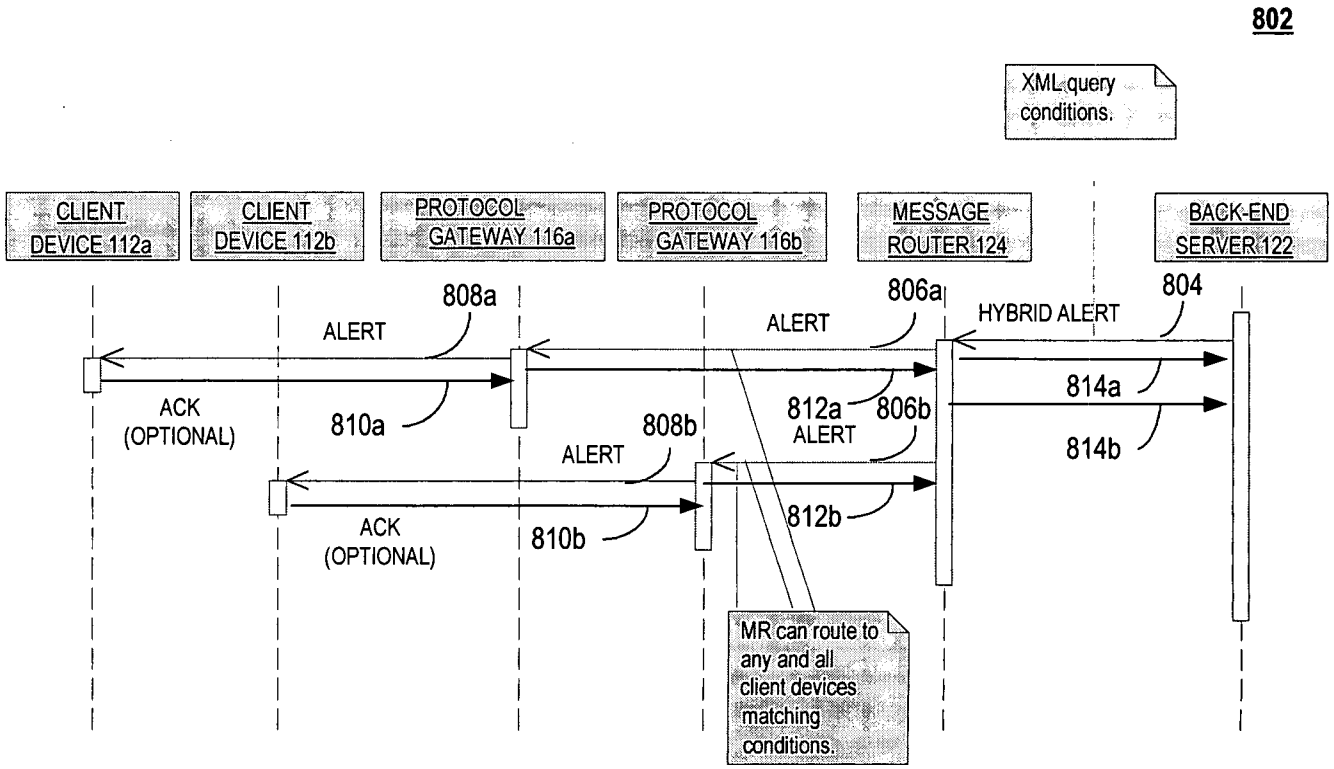

802
XML query conditions.
CLIENT DEVICE 112a
CLIENT DEVICE 112b
PROTOCOL GATEWAY 116a
PROTOCOL GATEWAY 116b
MESSAGE ROUTER 124
BACK-END SERVER 122
808a
ALERT
806a
ALERT
HYBRID ALERT
804
ACK (OPTIONAL)
810a
812a
806b
ALERT
814a
814b
808b
ALERT
ACK (OPTIONAL)
810b
812b
MR can route to any and all client devices matching conditions.

FIG. 8B

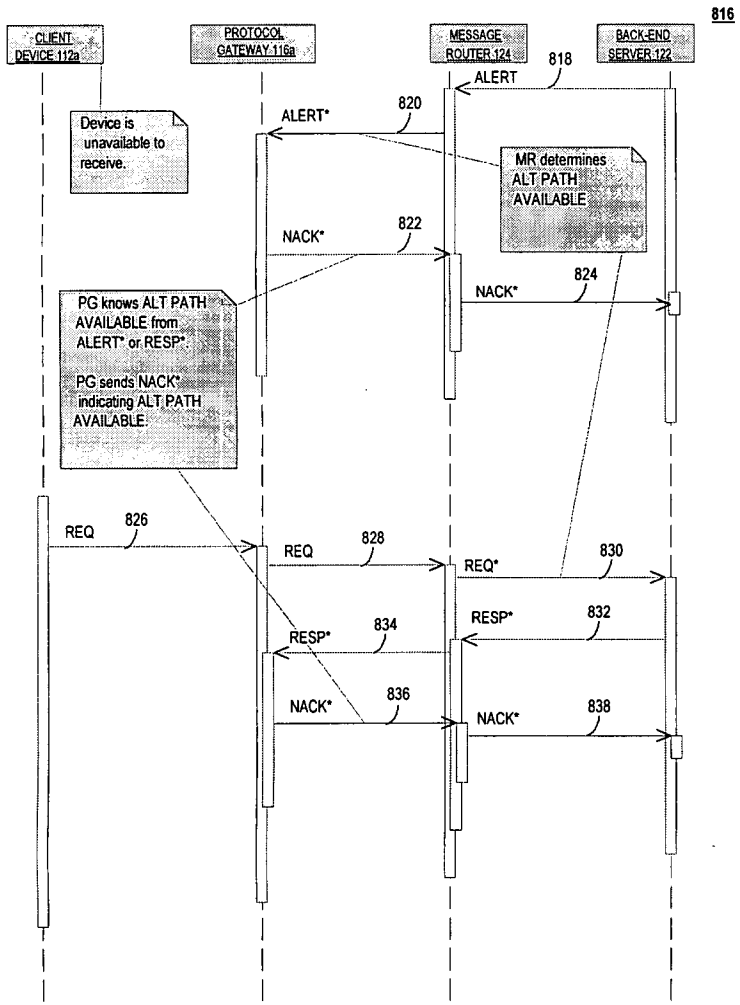

816
CLIENT DEVICE 112a
PROTOCOL GATEWAY 116a
MESSAGE ROUTER 124
BACK-END SERVER 122
ALERT
818
ALERT*
820
Device is unavailable to receive.
MR determines ALT PATH AVAILABLE
NACK*
822
NACK*
824
PG knows ALT PATH AVAILABLE from ALERT* or RESP*.
PG sends NACK* indicating ALT PATH AVAILABLE.
REQ
826
REQ
828
REQ*
830
RESP*
832
RESP*
834
NACK*
836
NACK*
838

FIG. 8C

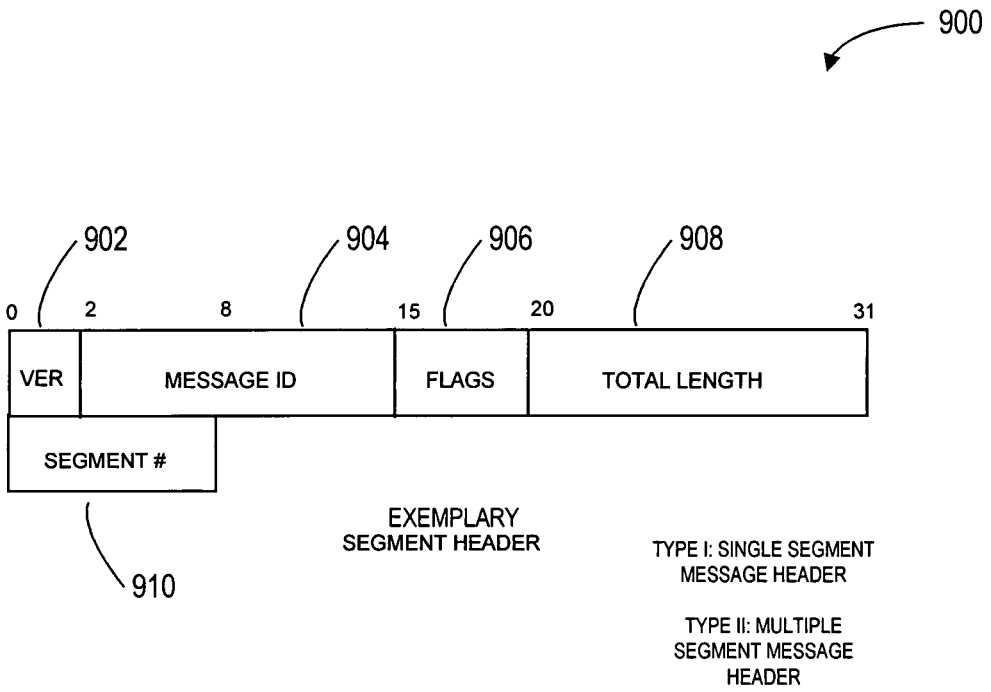

900
902
904
906
908
0
2
8
15
20
31
VER
MESSAGE ID
FLAGS
TOTAL LENGTH
SEGMENT #
910
EXEMPLARY
SEGMENT HEADER
TYPE I: SINGLE SEGMENT
MESSAGE HEADER
TYPE II: MULTIPLE
SEGMENT MESSAGE
HEADER

FIG. 9